What is Claimed is:

1. A polymer comprising a backbone, wherein the backbone comprises one or more azo linkages, and wherein the backbone comprises one or more groups that will yield a biologically active compound upon hydrolysis of the polymer.

2. The polymer of claim 1 which comprises one or more units of formula (I) in the backbone:

$$-A\text{-}R^1\text{-}N{=}N\text{-}R^1\text{-}(A\text{-}L)_n- \qquad (I)$$

wherein

each R^1-N is a group that will provide a biologically active compound upon hydrolysis of the polymer;

each A is independently an anhydride linkage, an amide linkage, a thioester linkage, or an ester linkage;

L is a linking group; and n is 0 or 1.

3. The polymer of claim 1 or 2 wherein the biologically active compound is a non-steriodal anti-inflammatory drug, an anti-bacterial drug, an anti-fungal drug, an anti-cancer drug, an anti-thrombotic drug, an immunosuppressive drug, an analgesic drug or an anesthetic drug.

4. The polymer of claims 1 or 2, wherein the biologically active compound is 5-aminosalicylic acid, 4-aminosalicylic acid, 2-p-sulfanilyanilinoethanol, 4,4'-sulfinyldianiline, 4-sulfanilamidosalicylic acid, acediasulfone, acetosulfone, amikacin, amoxicillin, amphotericin B, ampicillin, apramycin, arbekacin, aspoxicillin, aztreonam, brodimoprim, butirosin, capreomycin, carumonam, cefadroxil, cefatrizine, cefclidin, cefdinir,

cefditoren, cefepime, cefetamet, cefixime, cefmenoxime, cefminox, cefodizime, ceforanide, cefotaxime, cefotiam, cefozopran, cefpirome, cefprozil, cefroxadine, ceftazidime, cefteram, ceftibuten, ceftriaxone, cefuzonam, cephalexin, cephaloglycin, cephalosporin C, cephradine, clinafloxacin, colistin, cyclacillin, dapsone, diathymosulfone, dibekacinm, enviomycinm, epicillin, fortimicin(s), gentamicin(s), gramicidin S, isepamicin, kanamycin(s), lucensomycin, lymecycline, micronomicin, natamycin, neomycin, netilmicin, paromomycin, pazufloxacin, penicillin N, peplomycin, perimycin A, polymyxin, p-sulfanilylbenzylamine, ribostamycin, ristocetin, sisomicin, sparfloxacin, succisulfone, sulfachrysoidine, sulfamidochrysoidine, sulfanilic acid, sulfoxone, teicoplanin, tetroxoprim, thiazolsulfone, tigemonam, tobramycin, tosufloxacin, trimethoprim, trovafloxacin, tuberactinomycin, vancomycin, azaserine, candicidin(s), mepartricin, nystatin, tubercidin, 6-diazo-5-oxo-L-norleucine, azacitadine, bleomycin(s), carubicin, cladribine, cytarabine, daunorubicin, denopterin, doxorubicin, edatrexate, eflornithine, epirubicin, fludarabine, gemcitabine, idarubicin, melphalan, methotrexate, mitomycin C, pirarubicin, piritrexim, pteropterin, puromycin, streptonigrin, thiamiprine, thioguanine, trimetrexate, tubercidin, zorubicin, gusperimus, ubenimex, butethamine, naepaine, orthocaine, piridocaine, 3-amino-4-hydroxybutyric acid, amfenac, bromfenac, mesalamine, or S-adenosylmethionine.

5. The polymer of claim 4, wherein the biologically active compound is 5-aminosalicylic acid or 4-aminosalicylic acid.

6. The polymer of claim 4, wherein the biologically active compound is 2-p-sulfanilyanilinoethanol, 4,4'-sulfinyldianiline, 4-sulfanilamidosalicylic acid, acediasulfone, acetosulfone, amikacin, amoxicillin, amphotericin B, ampicillin, apramycin, arbekacin, aspoxicillin, aztreonam, brodimoprim,

butirosin, capreomycin, carumonam, cefadroxil, cefatrizine, cefclidin, cefdinir, cefditoren, cefepime, cefetamet, cefixime, cefmenoxime, cefminox, cefodizime, ceforanide, cefotaxime, cefotiam, cefozopran, cefpirome, cefprozil, cefroxadine, ceftazidime, cefteram, ceftibuten, ceftriaxone, cefuzonam, cephalexin, cephaloglycin, cephalosporin C, cephradine, clinafloxacin, colistin, cyclacillin, dapsone, diathymosulfone, dibekacinm, enviomycinm, epicillin, fortimicin(s), gentamicin(s), gramicidin S, isepamicin, kanamycin(s), lucensomycin, lymecycline, micronomicin, natamycin, neomycin, netilmicin, paromomycin, pazufloxacin, penicillin N, peplomycin, perimycin A, polymyxin, p-sulfanilylbenzylamine, ribostamycin, ristocetin, sisomicin, sparfloxacin, succisulfone, sulfachrysoidine, sulfamidochrysoidine, sulfanilic acid, sulfoxone, teicoplanin, tetroxoprim, thiazolsulfone, tigemonam, tobramycin, tosufloxacin, trimethoprim, trovafloxacin, tuberactinomycin or vancomycin.

7. The polymer of claim 4, wherein the biologically active compound is azaserine, candicidin(s), mepartricin, nystatin, tubercidin.

8. The polymer of claim 3, wherein the biologically active compound is a non-steriodal anti-inflammatory drug.

9. The polymer of claim 8, wherein the biologically active compound is 3-amino-4-hydroxybutyric acid, amfenac, bromfenac, mesalamine or S-adenosylmethionine.

10. The polymer of claim 4, wherein the biologically active compound is 6-diazo-5-oxo-L-norleucine, azacitadine, azaserine or bleomycin, carubicin, cladribine, cytarabine, daunorubicin, denopterin, doxorubicin, edatrexate, eflornithine, epirubicin, fludarabine, gemcitabine, idarubicin, melphalan,

methotrexate, mitomycin C, pirarubicin, piritrexim, pteropterin, puromycin, streptonigrin, thiamiprine, thioguanine, trimetrexate, tubercidin, ubenimex or zorubicin.

11. The polymer of claim 4, wherein the biologically active compound is gusperimus or ubenimex.

12. The polymer of claim 4, wherein the biologically active compound is butethamine, naepaine, orthocaine or piridocaine.

13. The polymer of claim 2, wherein L is a divalent, branched or unbranched, saturated or unsaturated, hydrocarbon chain, having from 1 to 25 carbon atoms, wherein one or more (e.g. 1, 2, 3, or 4) of the carbon atoms is optionally replaced by (-O-) or (-NR-), and wherein the chain is optionally substituted on carbon with one or more (e.g. 1, 2, 3, or 4) substituents selected from the group consisting of (C_1-C_6)alkoxy, (C_3-C_6)cycloalkyl, (C_1-C_6)alkanoyl, (C_1-C_6)alkanoyloxy, (C_1-C_6)alkoxycarbonyl, (C_1-C_6)alkylthio, azido, cyano, nitro, halo, hydroxy, oxo, carboxy, aryl, aryloxy, heteroaryl, and heteroaryloxy.

14. The polymer of claim 13, wherein L is a divalent, branched or unbranched, saturated or unsaturated, hydrocarbon chain, having from 1 to 25 carbon atoms, wherein the chain is optionally substituted on carbon with one or more (e.g. 1, 2, 3, or 4) substituents selected from the group consisting of (C_1-C_6)alkoxy, (C_3-C_6)cycloalkyl, (C_1-C_6)alkanoyl, (C_1-C_6)alkanoyloxy, (C_1-C_6)alkoxycarbonyl, (C_1-C_6)alkylthio, azido, cyano, nitro, halo, hydroxy, oxo, carboxy, aryl, aryloxy, heteroaryl, and heteroaryloxy.

15. The polymer of claim 2, wherein L is a peptide.

16. The polymer of claim 2, wherein L is an amino acid.

17. The polymer of claim 2, wherein L is a divalent, branched or unbranched, saturated or unsaturated, hydrocarbon chain, having from 1 to 25 carbon atoms, wherein one or more (e.g. 1, 2, 3, or 4) of the carbon atoms is optionally replaced by (-O-) or (-NR-).

18. The polymer of claim 2, wherein L is a divalent, branched or unbranched, saturated or unsaturated, hydrocarbon chain, having from 3 to 15 carbon atoms, wherein one or more (e.g. 1, 2, 3, or 4) of the carbon atoms is optionally replaced by (-O-) or (-NR-), and wherein the chain is optionally substituted on carbon with one or more (e.g. 1, 2, 3, or 4) substituents selected from the group consisting of (C_1-C_6)alkoxy, (C_3-C_6)cycloalkyl, (C_1-C_6)alkanoyl, (C_1-C_6)alkanoyloxy, (C_1-C_6)alkoxycarbonyl, (C_1-C_6)alkylthio, azido, cyano, nitro, halo, hydroxy, oxo, carboxy, aryl, aryloxy, heteroaryl, and heteroaryloxy.

19. The polymer of claim 2, wherein L is a divalent, branched or unbranched, saturated or unsaturated, hydrocarbon chain, having from 3 to 15 carbon atoms, wherein one or more (e.g. 1, 2, 3, or 4) of the carbon atoms is optionally replaced by (-O-) or (-NR-).

20. The polymer of claim 2, wherein L is a divalent, branched or unbranched, saturated or unsaturated, hydrocarbon chain, having from 3 to 15 carbon atoms.

21. The polymer of claim 2, wherein L is a divalent, branched or unbranched, hydrocarbon chain, having from 3 to 15 carbon atoms.

22. The polymer of claim 2, wherein L is a divalent, branched or unbranched, hydrocarbon chain, having from 6 to 10 carbon atoms.

23. The polymer of claim 2, wherein L is a divalent hydrocarbon chain having 7, 8, or 9 carbon atoms.

24. The polymer of claim 2, wherein L is a divalent hydrocarbon chain having 8 carbon atoms.

25. The polymer of any one of claim 1, further comprising another therapeutic agent dispersed in the matrix of the polymer.

26. The polymer of any one of claim 1, further comprising another therapeutic agent appended to the polymer backbone.

27. A pharmaceutical composition comprising a polymer of claim 1 and a pharmaceutically acceptable carrier.

28. A therapeutic method for treating a disease in an animal comprising administering to an animal in need of such therapy, an effective amount of a polymer of claim 1.

29. A therapeutic method for producing an anaesthetic effect in an animal comprising administering to an animal in need of such therapy, an effective amount of a polymer of claim 13.

30. A therapeutic method for treating cancer comprising administering to an animal in need of such therapy, an effective amount of a polymer of claim 10.

31. A therapeutic method for producing an anti-inflammatory effect in an animal comprising administering to an animal in need of such therapy, an effective amount of a polymer of claim 8.

32. A method for producing a polymer as described in claim 1 comprising co-polymerizing a compound, of formula (X_1-R^1-N=N-R^1-X_2) and a linker precursor of formula Z_1-L-Z_2, wherein each R^1 is independently a group that will provide a biologically active compound upon hydrolysis of the polymer and cleavage of the azo-bond; L is a linking group; and each of X_1, X_2, Z_1, and Z_2 is selected to provide an anhydride linkage, an amide linkage, a thioester linkage, or an ester linkage upon polymerization.

33. A method of delivering a biologically active compound to a host comprising administering to the host a biocompatible and biodegradable polyester or polyamide of claim 1.

34. The polymer as described in claim 1 for use in medical therapy.

35. The use of a polymer as described in claim 1 for the manufacture of a medicament useful for the treatment of a disease in a mammal, such as a human.